

# Description

## COLLAPSIBLE DUMP BIN

### BACKGROUND OF INVENTION

[0001] *Field of Invention:* This invention relates generally to display and storage containers for use in storing and displaying a variety of products and other merchandise and, more particularly, to several embodiments of a collapsible display and storage dump bin that is easily collapsible for storage and shipment, and is easy to assemble and transport from one merchandising location to another.

[0002] *Background Art:* Dump bins are commonly utilized to store and display various products such as, for example, bottled or canned soft drinks, fruit juices and the like. Dump bins can be utilized as point-of-sale fixtures for storing and displaying products such as, for example, end-of-aisle displays or adjacent check-out counters. It is also common for such dump bins to display various advertisements and other promotional information concerning the products stored therein. However, most dump bins are big and bulky and difficult to move from place to place. The

known bins are also difficult to store when they are not in use. Some bins can optionally be disassembled for storage and shipping, however, disassembly and re-assembly can be cumbersome and time consuming. Also, many storage bins that can be disassembled have numerous parts that require excessive time to reassemble.

[0003] Further, the typical storage dump bin does not provide a separate display means for individually displaying a sample of the product included in the bulk storage area of the bin. Many dump bins are utilized to store and display a variety of types of items with the same general product category. For example, a given dump bin may contain a general product category such as bottled soft drinks from a particular manufacturer. However, a variety of different types of soft drinks may be included in the bin such as, for example, cola, fruit juice, fruit flavored, and caffeine-free soft drinks. It is difficult to quickly look in the storage area of a dump bin and quickly determine the different types of soft drinks or other products that are included therein because the products are randomly stacked in the storage area. Also, typical dump bins do not provide display means for actually displaying the individual products stored within the dump bin.

## SUMMARY OF INVENTION

[0004] The present invention relates to a collapsible dump bin for storing and displaying a wide variety of different products which includes a top rod member formed into a substantially planar loop providing an opening therethrough; a plurality of elongated side leg members each having a distal bearing member proximate one end thereof pivotally attached to the top rod member such that each leg member pivots about the top rod member on the respective bearing member; and a support platform or floor member having a plurality of mounting points on its peripheral edge each removably attached to one of the elongated side leg members between the distal bearing member and an opposing end of the respective leg member for forming a storage area defined by and between the opening formed by the loop of the top rod member, the support platform, and bordered on the side by the elongated side leg members. A container member or liner member adapted to fit the storage area defined by and between the top rod member, the support platform and the plurality of elongated side leg members can be positioned within the storage area to provide an enclosed area for holding a plurality of products.

[0005] The present dump bin may further include an optional base platform having a plurality of mounting points on its peripheral edge each removably attached to one of the elongated side leg members for providing additional support and reinforcement to the overall unit. The base platform may include wheels or other rolling means for mobility of the dump bin.

[0006] Still further, the distal bearing member associated with each elongated side leg member that is pivotally attached to the top rod member can also be slidably attached to such top rod member such that each leg member pivots about the top rod member on the bearing member and also slides with respect to the top rod member and along the peripheral of the top rod member on the bearing member. This allows the plurality of leg members to be easily slidably moved and positioned around the periphery of the top rod member at appropriate locations to anchor and/or stabilize the unit at a given location. This feature also allows for easy collapsing and assembly.

[0007] The present invention therefore provides a dump bin that includes only a few parts facilitating easy assembly and disassembly for storage and transportation. The present dump bin is easily collapsible once the support platform

and base platform (if applicable) are removed. The plurality of leg members can be slid to one side of the loop formed by the top rod member and can then be pivoted about the top rod member to collapse and fold over the opening formed by the loop. In the collapsed position, the dump bin can be easily stored and shipped.

[0008] These and other advantageous features of the present invention will be in part apparent and in part pointed out herein below.

#### **BRIEF DESCRIPTION OF DRAWINGS**

[0009] For a better understanding of the present invention, reference may be made to the following drawings.

[0010] Fig. 1 is a perspective view of the present dump bin constructed in accordance with the teachings of the present invention, the dump bin of Fig. 1 shown in its assembled form with four elongated leg members.

[0011] Fig. 2 is a perspective view of one of the elongated side leg members.

[0012] Fig. 3A is a front elevational view of the side leg members of Fig. 2.

[0013] Fig. 3B is a side elevational view of the side leg members of Fig. 2.

[0014] Fig. 4 is a perspective view of the product support plat-

form.

- [0015] Fig. 5 is top plan view of the top rod member and side leg members in a stowed position.
- [0016] Fig. 6 is a perspective view of the base platform with wheels.
- [0017] Fig. 7 is a perspective view of the present dump bin assembled with the product display header member attached.
- [0018] Fig. 8 is a perspective view of the product display header member.

#### **DETAILED DESCRIPTION**

- [0019] According to the embodiment(s) of the present invention, various views are illustrated in Figs. 1– 8 and like reference numerals are being used consistently throughout this specification to refer to like and corresponding parts of the present invention for all of the various views and figures of the drawing. Also, please note that the first digit(s) of the reference number for a given item or part of the present invention should correspond to the Fig. number in which the item or part is first identified.
- [0020] One embodiment of the present invention comprises a top member formed into a substantially planar loop. The loop forms an opening providing access to the present dump

bin. A plurality of elongated side leg members each having a distal bearing member proximate one end thereof are pivotally attached to the top member such that each leg member pivots about the top member on the respective bearing member. A support platform having a plurality of mounting members on its peripheral edge is removably attached to the elongated side leg members, each leg member being attached to a corresponding mounting member between the distal bearing member and the opposing end of the respective leg member thereby defining a storage area by and between the opening formed by the loop of the top member, the support platform, and the plurality elongated side leg members. The present dump bin as shown and described is designed such that a liner, container member or other shaped member can be inserted downwardly through the opening of the loop of the top member in order to complete the side walls of the present dump bin. A flexible rectangular board member made of a pliable material that can be formed into a cylinder or other appropriate shape is typically utilized to complete the side wall of the present dump bin, although other structures may likewise be used.

[0021] The top member shown in Fig. 1 is a wire or rod type

member although other shapes and materials may be used. The leg members shown in Fig. 1 are also wire or rod type members formed into an elongated type loop having a bow tie like pattern. The elongated loop of each leg member as shown is a substantially flat or planar loop formed with irregular curves into a bow-tie like pattern as shown in Figs. 2, 3A and 3B. However, the leg member loop does not have to be substantially planar, but can have bends, curves or contours associated therewith. Instead of wire or rod members, the leg members can also be made solid from any suitable material without departing from the spirit and scope of the present invention.

[0022] Although four leg members are shown in Figs. 1, 5 and 7, it is recognized and anticipated that one, two, three or more leg members can likewise be utilized where practical without departing from the spirit and scope of the present invention. If one or two leg members are utilized, the foot portions of the respective leg members can be larger and/or substantially weighted and/or they could be fixed or removably mounted to the floor or other supporting surface depending upon the particular application.

[0023] The details of the present invention and various embodiments can be better understood by referring to the figures



of the drawing. Referring to Fig. 1, a collapsible dump bin 100 for storing and displaying a wide variety of different products is shown. A top rod member 102 is formed into a substantially planar loop. The loop as shown forms a substantially circular loop, however geometries other than circular such as oval, elliptical, square, rectangular and so forth can optionally be utilized. An elongated side leg member 104 having a distal bearing member 106 proximate one end 108 is pivotally attached to the top rod member 102 such that the leg member 104 pivots about the top rod member on the bearing member 106. This embodiment shows the bearing member 106 as a simple loop, however the construction and operation of the bearing member could vary without departing from the spirit and scope of the invention so long as the leg member 104 is capable of pivoting about the top member 102. For example, the bearing member 106 could have detents or other means for fixing the position of the top rod member 102 with respect to the leg member 104 for selectively preventing free rotation of the leg member with respect to the top rod member. Any plurality of elongated side leg members 104 can be attached in the same manner as described and shown in Fig. 1. The more side leg members

utilized with the present unit 100, the more stable the bin will be. Four side leg members 104 are shown for the embodiment illustrated in Fig. 1, which embodiment is quite stable. Nevertheless, three side leg members 104 can likewise be utilized and still provide a very stable unit. It can be appreciated that the leg members 104 can be selectively positioned at appropriate locations along the periphery of the top rod member 102 as will be hereinafter explained to achieve stability of the overall unit at a point-of-sale location.

[0024] Depending upon the particular product application, it is possible to support the top rod member 102 in a stable display orientation using just one or two side leg members. If one or two side leg members are utilized, the foot portions 110 of the leg members 104 can be made larger having a substantially flat underside and/or they could be substantially weighted and/or they could be fixed or removably mounted to the floor or other supporting surface as will be hereinafter further explained. The foot portions 110 could also have dagger stakes extending therefrom for ground insertion for outdoor usage. Alternatively, the one or two side leg members 104 used in this particular application can be removably mounted to a base platform

that is heavily weighted for stability. However, if just one side leg member 104 is utilized, the pivotal relationship between the side leg member and the top rod member 102 can be such that the top rod member is maintained in a substantially horizontal orientation for product display. This can be accomplished, for example, with a bearing member or other mechanism having detents or a rotation stop member such as a tab extension on the top rod member that can be positioned to make contact with the leg member to stop rotational movement therebetween and fix the position of the top rod member 102 relative to the leg member 104. Still other mechanisms for accomplishing this task are recognized and anticipated.

[0025] A product support platform 112 having a plurality of mounting point members 114 associated with its peripheral edge is removably attachable to each elongated side leg member between the distal bearing member 106 and the opposing end portion 116 of each leg member 104. As best shown in Fig. 4, each mounting member 114 includes a plate or flange member having an opening extending therethrough fixedly attached to the support platform 112 at predetermined locations around the periphery thereof. The mounting members 114 are positioned and

located to rest upon the shoulder, bracket or support member 115 associated with each leg member 104 as best shown in Figs. 2 and 3B. The shoulder member 115 likewise includes an opening extending therethrough for mating with the opening in a respective mounting member 114 such that the support platform 112 can be fixedly attached to a respective leg member 104 via suitable fastening means such as by inserting a fastening member such as a bolt and corresponding nut through the respective openings in a mounting member 114 and corresponding shoulder member 115. Alignment of the members 114 and 115 can be easily accomplished by slidably moving a respective leg member 104 around the periphery of top rod member 102 as will be hereinafter further explained. In addition, the number of mounting members 114 associated with the support platform 112 can be predetermined and selected based upon how many leg members 104 will be utilized for a particular application, or a plurality of mounting members 114 may be associated with the support platform 112 regardless of the number of leg members to be utilized. It is also recognized and anticipated that the respective leg members 104 may be removably pivotally attachable to the top rod member 102

so that any number of leg members 104 can be attached or removed from top rod member 102 prior to full assembly.

[0026] Once support platform 112 is attached to the respective leg members 104, the top rod member 102, the support platform 112 and the leg members 104 define and form a storage area 118 therebetween, the storage area 118 being accessible through an opening 120 formed by the loop of the top rod member 102 and being bordered on the side by the elongated side leg members 104 as best illustrated in Fig. 1. A container member such as the member 122 illustrated in Fig. 1 can be inserted through opening 120 into the storage space 118 in order to provide side walls for enclosing products positioned within storage area 118. The container member 122 may include its own floor member which would rest upon support platform member 112 or it may be just a shell or opened tubular type member providing side walls to the storage area 118 but utilizing the support platform 112 for holding and supporting products positioned within the storage area 118. The container member 122 may be formed from a pliable or flexible material such a flexible board member which can be shaped or formed into a cylindrical or other

appropriate shape to fit within the storage area 118. It is recognized and anticipated that other structures conforming to the shape of storage member 118 may likewise be used.

[0027] The dump bin 100 can further include an optional base platform 600, as best illustrated in Fig. 6, having a plurality of base mounting point members 602 spaced around its peripheral edge for removably attaching the base platform 600 to any plurality of elongated side leg members 104. As best shown in Fig. 6, each mounting member 602 includes a plate or flange member having at least one opening extending therethrough fixedly attached to the base platform 600 at predetermined locations around the periphery thereof so as to correspond with the position and location of the respective end portions 116 of the leg members 104 when the leg members 104 are attached to the support platform 112. As best shown in Fig. 7, end portions 116 of each leg member 104 mates with a corresponding base mounting member 602 and a specifically configured clamp 603 is used to fixedly secure a respective leg member 104 to a respective mounting member 602. The clamp 603 includes an opening extending therethrough for aligning with the at least one opening in

the mounting member 603 for receiving a fastening member respectively therethrough. The clamp 603 includes a portion which wraps around end portion 116 of a respective leg member 104 and a portion of the base platform 600 as best shown in Figs. 6 and 7. When all leg members 104 are secured to the base platform 600, the base 600 provides additional reinforcement and stability to the overall unit. It is also recognized and anticipated that the base platform 600 can be attached to the respective leg members 104 at any location along the leg member between the product support platform 112 and the end portion 116 depending upon the construction of the base platform 600.

[0028] The base platform 600 can be a wheeled base platform for mobility of the dump bin and may include any plurality of wheels or rolling means 604. The wheels 604 can be standard caster type wheels and can be attached or can form a part of the base mounting members 602.

[0029] The elongated side leg members 104 which are pivotally attached to the top rod member 102 via a respective distal bearing member 106 are also preferably slidably attached to the top rod member 102 such that each leg member both pivots about the top rod member 102 on the bearing

member 106 and also slides with respect to the top rod member along the periphery thereof on the bearing member 106. Each leg member 104 can easily be slid around the top rod member 102 to the appropriate location to align and mate with both a mounting member 114 associated with the product support platform 112 and a mounting member 602 associated with the base platform 600 if used as previously explained. Each leg member 104 can likewise be slid to one side of the loop formed by the top rod member 102 as shown in Fig. 5, and then each leg member 104 can be pivoted about the top rod member 102 to collapse and fold over the opening 120 of the top rod member 102. In the collapsed position, the individual components of the present dump bin 100 including the top rod member 102 with attached leg members 104, the product support platform 112, the base platform 600 if used, and the display member 702 as will be hereinafter explained can be easily stored and shipped.

[0030] The present dump bin may further include an elongated product display member 702, as shown in Figs. 7 and 8, having opposing first and second end portions 802 and 804 (Fig. 8) respectively which are removably attachable to two opposed leg members 104 as shown in Fig. 7. The



display member 702 is arched or bowed as shown in Figs. 7 and 8 so as to extend above and across the opening 120 formed by the loop of the top rod member 102. The opposed end portions 802 and 804 of bowed member 702 are insertably received within receptacles 708 and 710 formed on at least the opposed leg members 104 as shown in Fig. 7. It is also recognized that the display header member 702 can likewise be attached directly to the top rod member 102 using any suitable means such as receptacles similar to the receptacles 708 and 710.

[0031] A plurality of bottle or can holder members 704 extend upwardly away from the display member 702 and away from the top rod member 102 and are configured and adapted to hold and retain a soft drink or other beverage container therewithin. In the embodiment illustrated in Figs. 7 and 8, the holder members 704 are of a spiral rod construction and can be sized to receive any sized beverage container. It is also recognized and anticipated that the holder members 704 can be shaped and sized to accommodate any product container size and shape.

[0032] A second member 706 is likewise attached to display member 702 and extends between and above the holder members 704 as illustrated in Figs. 7 and 8. The upper

end portion of the member 706 includes a sign or card holding mechanism 712 for holding and displaying product advertising and promotional information.

[0033] Although the various embodiments of the present collapsible dump bin 100 have been described and disclosed with respect to a substantially circular or oval top member constructed of a rod or wire type material, it is recognized and anticipated that the top member can take on any shape as discussed above as well as being made from materials other than wire or rod type materials such as a wide variety of tubular type materials including suitable plastic type materials. It is also recognized and anticipated that the top member can take on a wide variety of different shapes other than a rod type shape such as any tubular shape or other uniform or non-uniform shape so long as the respective leg members can pivot and, preferably, slide along at least a portion of the periphery of the top member. It is also recognized and anticipated that the respective leg members 104 can be constructed without any type of bearing member so long as the respective leg members are capable of pivotal movement about the top member 102. In similar fashion, in a preferred embodiment, the bearing member can likewise be eliminated and

other mechanisms can be utilized to allow each respective leg member 104 to be slidably moveable along at least a portion of the length of the top member. In addition, each of the various components of the present dump bin 100 such as the top member 102, the leg members 104, the product support platform member 112 and the optional base platform member 600 can likewise be made from a wide variety of different suitable materials so long as such materials are sufficiently durable to withstand normal wear and tear and the design load capacity of the overall unit.

[0034] Still further, it is also recognized and anticipated that the mounting members associated with the product support platform member 112 and the optional base platform member 600 can likewise take on a wide variety of different mounting means for accomplishing attachment to the respective leg members. In addition, it is also recognized that the product display member 702 can likewise take on a wide variety of different shapes other than a bowed or arched shape as illustrated in Figs. 7 and 8 so long as sufficient space is provided between the display member 702 and the top member 102 for providing easy access to the storage area 118. In similar fashion, it is likewise rec-

ognized and anticipated that the plurality of bottle or product holder members 704 can likewise take on a wide variety of different shapes so long as the members 704 can hold and support the particular product containers being displayed within the dump bin 100. Still further, it is recognized that the container member such as the member 122 illustrated in Fig. 1 can likewise be fabricated from any suitable board type material including both corrugated and uncorrugated board material as well as a wide variety of different types of plastic board material since such materials offer various degrees of stability, strength, flexibility and resistance to wear and damage during use. In addition, depending upon the particular types of products to be displayed within the unit 100, it is also recognized and anticipated that the dump bin 100 can likewise be utilized without a container member such as the member 122. As a result, the present dump bin 100 provides a simple, efficient, adaptable and accessible point-of-sale display ideally suited for merchandising a wide variety of different products therefrom, which unit can be easily moved from one location to another within the merchandising environment, and which unit can be easily disassembled and collapsed for convenient storage

and transportation.

[0035] The various dump bin examples shown above illustrate a novel apparatus for storing and displaying products. A user of the present invention may choose any of the above described dump bin embodiments, or an equivalent thereof, depending upon the desired application. In this regard, it is recognized that various forms of the present dump bin 100 could be utilized without departing from the spirit and scope of the present invention.

[0036] As is evident from the foregoing description, certain aspects of the present invention are not limited by the particular details of the examples illustrated herein, and it is therefore contemplated that other modifications and applications, or equivalents thereof, will occur to those skilled in the art. It is accordingly intended that the claims shall cover all such modifications and applications that do not depart from the spirit and scope of the present invention.

[0037] Other aspects, objects and advantages of the present invention can be obtained from a study of the drawings, the disclosure and the appended claims.